

January, 2011

3M™ Double Coated Tape 94210

Product Description

3M™ Double Coated Tapes with 3M™ Adhesive 420 are high tack film tapes that feature a polyester film carrier for dimensional stability and improved handling with ease of die cutting and laminating. The high tack acrylic 3M adhesive 420 provides both high performance at a wide temperature range and excellent adhesion to many plastics.



Product Features

- A polyester carrier in the products provides dimensional stability and improved handling with ease of die cutting and lamination compared to adhesive transfer tapes.
- 3M™ Adhesive 420 provides good temperature and chemical resistance and withstands tough application environments.
- 3M™ Adhesive 420 provides good shock resistance when dropped at various temperatures.
- 3M™ Adhesive 420 provides good adhesion to both HSE and LSE substrates.

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Technical Information Note

The following technical information and data should be considered representative or typical only and should not be used for specification purposes.

Typical Physical Properties

Property	Values		Notes
Total Tape Thickness without liner	0.1 mm	3.9 mil	
Faceside Adhesive Thickness	0.044 mm	1.7 mil	Faceside adhesive is on the interior of the roll, exposed when unwound and liner removed.
Backside Adhesive Thickness	0.044 mm	1.7 mil	Backside adhesive is on the exterior of the roll, exposed when liner is removed.
Carrier Thickness	0.012 mm	0.5 mil	
Faceside Adhesive Type	420		Faceside adhesive is on the interior of the roll, exposed when unwound and liner removed.
Backside Adhesive Type	420		Backside adhesive is on the exterior of the roll, exposed when liner is removed.
Adhesive Carrier	Clear Polyester		
Liner Material	58# Polycoated Kraft		
Liner Thickness	0.11 mm	4.2 mil	
Liner Color	Tan		

Typical Performance Characteristics

Relative High Temperature Operating Ranges		Test Condition
149 °C	300 °F	Short Term (minutes, hours)
121 °C	250 °F	Long Term (days, weeks)

Property: Relative High Temperature Operating Ranges

Typical Performance Characteristics (continued)

180° Peel Adhesion		Dwell/Cure Time	Substrate
4.4 N/cm	40 oz/in	15 min @ Room Temperature	Stainless Steel
4.9 N/cm	45 oz/in	15 min @ Room Temperature	Polycarbonate (PC)
4.4 N/cm	40 oz/in	15 min @ Room Temperature	ABS
2.7 N/cm	25 oz/in	15 min @ Room Temperature	Polypropylene (PP)
5.5 N/cm	50 oz/in	72 hr @ Room Temperature	Stainless Steel
6.6 N/cm	60 oz/in	72 hr @ Room Temperature	Polycarbonate (PC)
5.5 N/cm	50 oz/in	72 hr @ Room Temperature	ABS
3.3 N/cm	30 oz/in	72 hr @ Room Temperature	Polypropylene (PP)

Property: 180° Peel Adhesion
Method: ASTM D3330
Backing: Aluminum Foil

Property	Values	Method	Test Condition	Notes
Static Shear	>10,000 min	ASTM D3654	1000 g @ Room Temperature	1 in ² sample size
Static Shear	>10,000 min	ASTM D3654	500 g @ 70°C (158°F)	1 in ² sample size

Available Sizes

Property	Values	
Note	Subject to Minimum Order Requirements	
Minimum Available Width	12.7 mm	1/2 in
Maximum Available Width	1372 mm	54 in
Normal Slitting Tolerance	±0.08 mm	±1/32 in
Core Size (ID)	76.2 mm	3 in

Maximum Length		Width
164 m	180 yd	1/2 in to 63/64 in
329 m	360 yd	1 in to 54 in

Property: Maximum Length

Typical Environmental Performance

Property	Values
Humidity Resistance	No adverse effect on the bond after exposed to 100% relative humidity at 100°F (38°C).
U.V. Resistance	Adhesive is resistant to oxidation and ozone when exposed to air or ultraviolet light.

Environmental Performance

Humidity Resistance: High humidity has minimal effect on adhesive performance. No significant reduction in bond strength is observed after exposure for 7 days at 90°F (32°C) and 90% relative humidity.

UV Resistance: When properly applied, nameplates and decorative trim parts are not adversely affected by exposure.

Water Resistance: Immersion in water has no appreciable effect on the bond strength. After 100 hours at room temperature, the high bond strength is maintained.

Temperature Cycling Resistance: High bond strength is maintained after cycling four times through:

4 hours at 158°F (70°C)

4 hours at -20°F (-29°C)

4 hours at 73°F (22°C)

Chemical Resistance: When properly applied, nameplate and decorative trim parts will hold securely after exposure to numerous chemicals including oil, mild acids, and alkalis.

Handling/Application Information

Application Techniques

Bond strength is dependent upon the amount of adhesive-to-surface contact developed. Firm application pressure helps develop better adhesive contact and improve bond strength. To obtain optimum adhesion, the bonding surfaces must be clean, dry and well unified. Some typical surface cleaning solvents are isopropyl alcohol or heptane.*

*Note: Carefully read and follow the manufacturer’s precautions and directions for use when using solvents. Ideal tape application temperature range is 70°F to 100°F (21°C to 38°C). Initial tape application to surfaces at temperatures below 50°F (10°C) is not recommended because the adhesive becomes too firm to adhere readily. However, once properly applied, low temperature holding is generally satisfactory.

Application Equipment

To apply adhesives in a wide web format, lamination equipment is required to ensure acceptable quality. To learn more about working with pressure-sensitive adhesives please refer to technical bulletin, Lamination Techniques for Converters of Laminating Adhesives (70-0704-1430-8).

For additional dispenser information, contact your local 3M sales representative, or the toll free 3M sales assistance number at 1-800-362-3550.

Storage and Shelf Life

Store in original cartons at 70°F (21°C) and 50% relative humidity.

If stored under proper conditions, these products retain their performance and properties for 24 months from date of manufacture.

Trademarks

3M is a trademark of 3M Company.

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Family Group

	94210	94215	94220
Relative High Temperature Operating Ranges (°C) Test Condition: Short Term (minutes, hours)	149	149	149
Relative High Temperature Operating Ranges (°C) Test Condition: Long Term (days, weeks)	121	121	121
Total Tape Thickness without liner (mm)	0.1	0.15	0.2
Faceside Adhesive Thickness (mm)	0.044	0.069	0.095
Backside Adhesive Thickness (mm)	0.044	0.069	0.095
Carrier Thickness (mm)	0.012	0.012	0.012
Faceside Adhesive Type	420	420	420
Backside Adhesive Type	420	420	420
Adhesive Carrier	Clear Polyester	Clear Polyester	Clear Polyester
Liner Material	58# Polycoated Kraft	58# Polycoated Kraft	58# Polycoated Kraft
Liner Thickness (mm)	0.11	0.11	0.11
Liner Color	Tan	Tan	Tan

References

- 3m.com Product Page
Url: http://www.3m.com/3M/en_US/company-us/all-3m-products/~/3M-Double-Coated-Tape-94210?N=5002385+3293242584&rt=rud
- Safety Data Sheet
Url: https://www.3m.com/3M/en_US/company-us/SDS-search/results/?gsaAction=msdsSRA&msdsLocale=en_US&co=ptn&q=94210

ISO Statement

This Industrial Adhesives and Tapes Division product was manufactured under a 3M quality system registered to ISO 9001 standards.

Technical Information

The technical information, recommendations and other statements contained in this document are based upon tests or experience that 3M believes are reliable, but the accuracy or completeness of such information is not guaranteed.

Product Selection and Use

Many factors beyond 3M's control and uniquely within user's knowledge and control can affect the use and performance of a 3M product in a particular application. Given the variety of factors that can affect the use and performance of a 3M product, user is solely responsible for evaluating the 3M product and determining whether it is fit for a particular purpose and suitable for user's method of application.

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